REMARKS/ARGUMENTS

In view of the foregoing amendments and the following remarks, the applicants respectfully submit that the pending claims comply with 35 U.S.C. § 112, are not anticipated under 35 U.S.C. § 102 and are not rendered obvious under 35 U.S.C. § 103. Accordingly, it is believed that this application is in condition for allowance. If, however, the Examiner believes that there are any unresolved issues, or believes that some or all of the claims are not in condition for allowance, the applicants respectfully request that the Examiner contact the undersigned to schedule a telephone Examiner Interview before any further actions on the merits.

The applicants will now address each of the issues raised in the outstanding Office Action.

Rejections under 35 U.S.C. § 112

Claims 12, 13, 25, 26, 38, 39, 53, 54, 66, 67, 79 and 80 stand rejected under 35 U.S.C. § 112, ¶ 2 as being incomplete for omitting essential elements. The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

The Examiner contends that it is unclear how "unused inventory" and "unused ad spots" are determined, and recommends language reciting how such a determination might be made. The applicants have declined to amend the claims as proposed because the claims do not require "determining" unused ad spots or unused inventory. As

one example, such information might already be available and simply accepted. In any event, these claims have been amended to clarify what is meant by an "unused ad spot".

Accordingly, the applicants respectfully request that the Examiner withdraw this ground of rejection.

Rejections under 35 U.S.C. § 102

Claims 1, 3-10, 14, 16-23, 27, 29-36, 40-42, 44-51, 55, 57-64, 68, 70-77 and 81-85 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0055816 (referred to as "the Paine publication"). The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Since claims 57, 58 and 85 have been canceled, this ground of rejection is rendered moot with respect to these claims.

Various patentable features of the claimed invention will be described below. First, however, the Paine publication is introduced. On a superficial level, the Paine publication and the present application have some similarities. Specifically, the Paine publication provides an improved tool for finding good search terms for an advertiser's Website while getting rid of the bad ones (See, e.g., paragraph 0012.), while the present invention concerns determining one or more keywords (or some other serving constraints which may be used for ad targeting). However, looking deeper than these superficial similarities reveals significant, and

patentable, differences between the Paine publication and the claimed invention.

The Paine Publication

The Paine publication makes search term recommendations by (i) looking for good search terms directly on an advertiser's Website (referred to as "spidering"), and/or (ii) comparing an advertiser to other, similar, advertisers and recommending the search terms those other advertisers have chosen (referred to as "collaborative filtering"). In at least one embodiment, the output of the spidering step is used as input to the collaborative filtering step. (See, e.g., paragraph 0013.) These techniques are discussed with reference to Figures 10-20 of the Paine publication.

Spidering in the Paine Publication

Spidering is a known technology for downloading a Website rooted at a uniform resource locator (URL). Specifically, a home page of the Website specified by the URL is downloaded and scanned for hyperlinks to other pages, which are similarly downloaded and scanned until the program reaches a predefined link depth, downloads a predetermined number of pages, or reaches some other stopping criterion. (See, e.g., paragraph 0096.)

Search terms may be determined from this spidering. The search terms may be scored using two factors -- (i) how common a search term is on the World Wide Web, and (ii) how often users search for it. The search terms may then be sorted by either the score quality or by the number of times they have occurred in the downloaded pages. (See, e.g., paragraph 0097.)

As can be appreciated from the foregoing, determining search term recommendations from spidering simply uses terms found in the advertiser's Website, but not "categories". In his "Response to Arguments", the Examiner indicated that he considers a "search term" to be a "category". (See Paper No. 02072006, page 6.)

Collaborative Filtering in the Paine Publication

Generally, collaborative filtering is used to make recommendations based on user similarity. In the case of the Paine publication, collaborative filtering is used to make recommendations based on advertiser similarity in terms of search terms that they have used for their ads. More specifically, the Paine publication computes the Pearson correlation between a new advertiser and all of the existing advertisers using a numeric rating (e.g., 0 to 5) assigned to each entry in an advertiser/term table. An existing advertiser might get a rating of 5 for every term that it has bid on and a rating of UNKNOWN for every other term. The new advertiser (to which recommendations are to be made) might get a rating of 5 for terms it has accepted, a 1 for terms that it has rejected, and a 2 for every other term. (See, e.g., paragraph 0102.)

Once the collaborative filter has computed the correlation between the new advertiser and the existing advertisers (that is, how similar the new advertiser is to various existing advertisers), the collaborative filter predicts how likely it is that each term is a good search term for the new advertiser. (See, e.g., paragraph 0104.)

As can be appreciated from the foregoing, determining search term recommendations from search terms

used by other advertisers using collaborative filtering does not use "categories." In his "Response to Arguments", the Examiner indicated that he considers a "search term" to be a "category". (See Paper No. 02072006, page 6.)

Combining Spidering and Collaborative Filtering in the Paine Publication

Spidering and collaborative filtering may be used in combination. For example, spidering may provide recommended search terms which a new advertiser may accept or reject. Given such an initial list of accepted and rejected search terms (which may have ratings based on whether or not the terms were accepted or rejected), collaborative filtering may be used to provide an updated list of search terms which may be accepted or rejected by the new advertiser. Collaborative filtering may be run repeatedly based on the latest list of accepted or rejected search terms until the user is satisfied. (See, e.g., paragraphs 0107-0112 and Figure 10.)

As can be appreciated from the foregoing, determining search term recommendations using a combination of spidering and collaborative filtering does not use "categories." In his "Response to Arguments", the Examiner indicated that he considers a "search term" to be a "category". (See Paper No. 02072006, page 6.)

The Examiner's Interpretation of the Paine Patent

The Examiner is apparently interpreting (1) accepting at least one category as reading on accepting the "spidering" results in the Paine publication, and (2) determining one or more keywords from using the accepted

at least one category as reading on using the "spidering" results to get "collaborative filtering" results in the Paine publication. To reach this conclusion, the Examiner is interpreting category to include keywords. However, in exemplary embodiments consistent with the present invention, each of a number of categories is associated with one or more keywords. Consequently, a category can be used to lookup one or more keywords. As one example, Figure 3 of the present application includes an index 350 in which a category can 352 can be used as a key to obtain associated keywords 354.

The applicants continue to disagree with the Examiner's interpretation of "category". As previously stated, the ordinary meaning of category is a defined class in a classification system. In the context of the Internet and e-commerce, those skilled in the art appreciate that categories typically pertain to product and service categories. For example, the Website Amazon.com includes product categories including Books, Music, DVD, VHS, Magazines & Newspapers, Computer & Video Games, Software, Electronics, Audio & Video, Camera & Photo, Cell Phones & Service, Computers, Office Products, Musical Instruments, Home & Garden, Automotive, Bed & Bath, Furniture & Décor, Gourmet Food, Kitchen & Housewares, Outdoor Living, Pet Supplies, Tools & Hardware, Apparel & Accessories, Shoes, Jewelry & Watches, Beauty, Health & Personal Care, Sports & Outdoors, Toys & Games and Baby.

Recall that the use of the term "category" in the specification is consistent with the ordinary meaning of category and its meaning in the context of e-commerce.

For example, in the illustrative example provided in § 4.3 of the specification, it is described that:

> Category determinations operations 410 may determine various, possibly relevant, categories (and possibly sub-categories) such as:
>
> *automobiles …*
> *computers … operating systems …*
> *music … popular music …*
> *music … musical instruments …*
> *animals … mammals … felines …*
> *movies … foreign films …*
> *travel … resorts …*
> *sports & recreation … snorkeling … scuba …*
> *sports & recreation … football …*
> *pets … fish*

Page 25, lines 13-26. Embodiments consistent with the present invention use associations between categories and keywords to suggest appropriate keywords. Using categories allows the suggestion of irrelevant keywords (that might occur due to the fact that some words, like "Jaguar" for example, can have multiple meanings), to be avoided.

On the other hand, although the Paine publication also recommends or suggests search terms used when serving ads, it does not use categories as claimed. Rather, it uses spidering (which uses keywords found on a Website -- not categories) and/or collaborative filtering (which uses keywords from other advertisers considered to be similar to the new advertiser, not categories, based on their use of common keywords) as described above.

The Examiner uses the fact that "automobile" is used as an example of a search term in the Paine publication and a category in the present application in an attempt

to prove that search terms and keywords are the same as categories. *However, the fact that a particular term might be used as a label representing a category does not mean that the same term, when used as a search term, represents a category.* Thus, the applicants respectfully submit that the rejection rests on an improper interpretation of "category". *In any event, the claims have been amended to preclude even the Examiner's interpretation of "category".*

Patentable Features of the Claimed Invention

Having introduced the Paine publication, various patentable features of the claimed invention are discussed.

Independent claims 1, 14, 27, 42, 55, and 68 are not anticipated by the Paine publication because the Paine publication does not teach an act of (or means for) looking up one or more keywords using a category. Even assuming, arguendo, that "category" reads on the keywords returned by spidering in the Paine publication as alleged by the Examiner, these alleged categories are not used to "lookup" keywords. To reiterate, the Paine publication computes the Pearson correlation between a new advertiser and all of the existing advertisers using a numeric rating (e.g., 0 to 5) assigned to each entry in an advertiser/term (apparently, the Examiner interprets "term" as being read on by "category") table. An existing advertiser might get a rating of 5 for every term that it has bid on and a rating of UNKNOWN for every other term. The new advertiser (to which recommendations are to be made) might get a rating of 5 for terms it has accepted, a 1 for terms that it has rejected, and a 2 for

every other term. (See, e.g., paragraph 0102.) Once the collaborative filter has computed the correlation between the new advertiser and the existing advertisers (that is, how similar the new advertiser is to various existing advertisers), the collaborative filter predicts how likely it is that each term is a good search term for the new advertiser. (See, e.g., paragraph 0104.) ***This collaborative filtering process to get terms (alleged to be keywords) used by other advertisers from existing terms (alleged to be categories) is not using a category to lookup one or more keywords.*** Claim 84, as amended recites a relationship between categories and keywords which would enable such a lookup. Accordingly, independent claims 1, 14, 27, 42, 55, 68 and 84 are not anticipated by the Paine publication for at least this reason.

Since claims 3-10 depend, either directly or indirectly, from claim 1, since claims 16-23 depend, either directly or indirectly, from claim 14, since claims 29-36, 40, 41 and 83 depend, either directly or indirectly, form claim 27, since claims 44-51 depend, either directly or indirectly from claim 42, since claims 59-64 depend, either directly or indirectly, from claim 55, and since claims 70-77, 81 and 82 depend, either directly or indirectly, from claim 68, these claims are similarly not anticipated by the Paine publication.

Further, in rejecting dependent claims 3, 4, 16, 17, 29, 30, 44, 45, 70 and 71, the Examiner considered an advertiser Website as discussed in the Paine publication to contain ad creative information. (See Paper No. 02072006, page 4.) Although an advertiser Website might

be linked to an ad, these claims have been amended to recite that the ad includes ad creative information for rendering the ad and an address of a landing Webpage linked from the ad. This distinguishes the ad (and ad creative information) from an advertiser Website. Accordingly, these claims are not anticipated by the Paine publication for at least this additional reason.

Further, in rejecting dependent claims 5, 18, 31, 46, 59 and 72, the Examiner considered subaccounts as used in paragraph [0080] to be different categories. (See Paper No. 02072006, page 4.) The applicants strongly disagree. First, Figure 9 and its corresponding description in paragraph [0080] merely concern the known notion of campaign number subaccounts. (Indeed, the main description of Paine's invention on which the presently claimed invention is alleged to read begins at paragraph [0093].)

More importantly, the Examiner is interpreting "category" inconsistently to mean both "terms" and advertiser "subaccounts". The Court of Appeals for the Federal Circuit ("the CAFC") has instructed that to anticipate, a single prior art reference must "describe all of the elements of the claims, ***arranged as in the [claim]***." (Emphasis added.) C.R. Bard Inc. v. M3 Systems, Inc., 48 U.S.P.Q.2d 1225, 1230 (Fed. Cir. 1998), cert. denied, 119 S. Ct. 1804 (1999). This is in accord with previous Court of Claims and Patent Appeals ("the CCPA") decisions. For example, the CCPA has instructed that to anticipate:

> [the] reference must clearly and unequivocally disclose the claimed

> [invention] or direct those skilled in the art to the [claimed invention] ***without any need for picking, choosing and combining various disclosures not directly related to each other*** by the teachings of the cited reference. [Emphasis added.]

In re Arkley, 172 U.S.P.Q. 524, 526 (CCPA 1972). This inconsistent interpretation of "category" to mean both "terms" and advertiser "subaccounts" in the Paine publication shows that the Paine publication does not describe all of the elements of the claims, ***arranged as in the claim.***

Accordingly, dependent claims 5, 18, 31, 46, 59 and 72 are not anticipated by the Paine publication for at least this additional reason.

Further, in rejecting claims 7-10, 20-23, 33-36, 48-51, 61-64 and 74-77, the Examiner simply alleges that the performance of ads serve using targeting keywords is tracked, citing paragraph [0087] of the Paine publication. (See Paper No. 02072006, page 4.) However, merely tracking performance does not teach using such performance for purposes of performing qualification testing of keywords. Accordingly, these claims are not anticipated by the Paine publication for at least this additional reason.

Rejections under 35 U.S.C. § 103

Claims 2, 11-13, 15, 24-26, 28, 37-39, 43, 52-54, 56, 65-67, 69 and 78-80 stand rejected under 35 U.S.C. § 103 as being unpatentable over the Paine publication.

The applicants respectfully request that the Examiner reconsider and withdraw this ground of rejection in view of the following.

Regarding claims 2, 15, 28, 43, 56 and 69, the Examiner contends that the Paine publication uses a list of good words for an advertisers Website and a list of negative keywords that have no relation to the advertiser's Website, and concludes that it would have been obvious to one skilled in the art to include negative keywords because doing so would allow more accuracy in relation to relevant keywords. (See Paper No. 02072006, page 5.)

First, even assuming, arguendo, that one skilled in the art would have been motivated to modify the Paine publication as proposed by the Examiner, the proposed modification of the Paine publication would not compensate for the deficiencies of the Paine publication with respect to claims 1, 14, 27, 42, 55 and 68 (from which claims 2, 15, 28, 43, 56 and 69, respectively, directly or indirectly depend) discussed above, these claims are not rendered obvious by the Paine publication for at least this reason.

Second, one skilled in the art would not have been motivated to modify the Paine publication as proposed by the Examiner. Specifically, the positive and negative scores assigned to keywords is used in the context of collaborative filtering for determining whether a new advertiser is similar to an existing advertiser. This has nothing to do with the use of negative keywords for controlling the serving of ads. Further, the Examiner provides no suggestion in the art for the proposed modification. Consequently, it is presumably the product

of impermissible hindsight. Thus, claims 2, 15, 28, 43, 56 and 69 are not rendered obvious by the Paine patent for at least this additional reason.

Regarding claims 11, 24, 37, 52, 65, 69 and 78, the Examiner concedes that the Paine publication does not discuss the type of ad space that will be used for the ad on a search site. To compensate for this admitted deficiency of the Paine publication, the Examiner argues that it is well-known that when a new ad is added to a search page, it will be added to an ad spot that would otherwise been unused, and concludes that it would have been obvious to one skilled in the art to specify that the advertisement is to be served on a portion of a Webpage that would otherwise been unused, because this would keep the operator of the search site from overlapping other information with an ad. (Paper No. 02072006, page 5.)

First, even assuming, arguendo, that one skilled in the art would have been motivated to modify the Paine publication as proposed by the Examiner, the proposed modification of the Paine publication would not compensate for the deficiencies of the Paine publication with respect to claims 1, 14, 27, 42, 55 and 68 (from which claims 11, 24, 37, 52, 65 and 78, respectively, indirectly depend) discussed above, these claims are not rendered obvious by the Paine publication for at least this reason.

Second, the invention recited in these claims concerns qualification testing of keyword (or serving constraint) recommendations. (See, e.g., Figure 8 of the present application.) As stated, "In one embodiment of

the present invention, the serving of the ads using trial targeting keyword (s) may be limited to ad spots (inventory) that otherwise would be unused." Page 22, line 30 through page 23, line 1. In this way, testing of keyword recommendations has a minimal impact on the system.

As used in the art, the term "ad spot" means a portion of a document, such as a Web page, available to show ads -- it does not mean any spot on a document. As described in the specification:

> Suppose that the Web page has ten (10) ad spots and ten (10) ads are served. In this case, there are no unused ad spots, and the information 560 need not be updated. If, however, the Web page has ten (10) ad spots and only three (3) ads are served, there are seven (7) unused ad spots.

Page 20, lines 4-8.

Finally, the Examiner's conclusion that when a new advertisement is added to a search page, it ***will be*** added to an ad spot that would otherwise be unused is false. Often times there are a great number of eligible ads competing to be placed on an ad spot. If an ad (ad A) is served, it is very often the case that another ad (ad B) losses out to ad A, and ad B would otherwise have been served if not for ad A. (Indeed, this is the reason why advertisers submit bids for ad spots. If the ad spots were necessarily otherwise unused, advertiser could bid nothing or a nominal amount and guaranteed to be served.) Thus, claims 11, 24, 37, 52, 65, 69 and 78 are not

rendered obvious by the Paine publication for at least this additional reason.

In rejecting claims 12, 13, 25, 26, 38, 39, 53, 54, 66, 67, 79 and 80, the Examiner concedes that the Paine publication does not teach ordering ads based on an amount left in unused inventory. To compensate for this admitted deficiency, the Examiner argues that it would have been obvious to one of ordinary skill in the art that the Webpage owner would want to recommend keywords to a paying advertiser for which there were more spots available to ensure that less ad spots would be unpaid for. (See Paper No. 02072006, page 6.)

First, even assuming, arguendo, that one skilled in the art would have been motivated to modify the Paine publication as proposed by the Examiner, the proposed modification of the Paine publication would not compensate for the deficiencies of the Paine publication with respect to claims 1, 14, 27, 42, 55 and 68 (from which claims 11, 24, 37, 52, 65 and 78, respectively, indirectly depend) discussed above, these claims are not rendered obvious by the Paine publication for at least this reason.

Second, the Examiner provides no suggestion in the art for this modification. Consequently, it is presumably the product of impermissible hindsight. Second, these claims pertain to qualification testing of targeting keywords. Therefore, these claims are not rendered obvious by the Paine publication for at least this additional reason.

New claims

New claims 86-88 depend from claims 1, 14 and 27, respectively, and further recite that the category is specifically associated with the keywords and this specific association is used to lookup the keywords. These claims are supported, for example, by table 350 of Figure 3 and its associated description.

Conclusion

In view of the foregoing amendments and remarks, the applicants respectfully submit that the pending claims are in condition for allowance. Accordingly, the applicants request that the Examiner pass this application to issue.

Respectfully submitted,

June 21, 2006

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